UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF NEW YORK

CARNEGIE INSTITUTION OF WASHINGTON,

M7D CORPORATION,

Plaintiffs,

v.

PURE GROWN DIAMONDS, INC.,

IIA TECHNOLOGIES PTE. LTD D/B/A IIA TECHNOLOGIES,

Defendants.

CARNEGIE INSTITUTION OF WASHINGTON,

M7D CORPORATION,

Plaintiffs,

v.

FENIX DIAMONDS LLC,

Defendant.

Civil Action No. 1:20-cv-00189-JSR

FILED UNDER SEAL

Civil Action No. 1:20-cv-00200-JSR

FILED UNDER SEAL

MEMORANDUM OF LAW IN SUPPORT OF PLAINTIFFS' MOTIONS TO DISMISS

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'078 Patent U.S. Patent No. 6,858,078

'189 Patent U.S. Patent No. RE41,189

'610 Patent U.S. Patent No. 6,811,610

'171 Application U.S. Patent Application No. 10/889,171

'266 Application U.S. Patent Application No. 10/161,266

'529 Application U.S. Reissue Patent Application No. 12/362,529

2AT IIA Technologies Pte. Ltd d/b/a IIA Technologies

Carnegie Carnegie Institution of Washington

Defendants Pure Grown Diamonds, Inc., IIa Technologies Pte. Ltd d/b/a

Ha Technologies, and Defendant Fenix Diamonds LLC

Fenix Defendant Fenix Diamonds LLC

Fenix ADCC Defendant Fenix Diamonds LLC'S Amended Affirmative Defenses and

Counterclaims, Civil Action No. 1:20-cv-00200-JSR, ECF No. 57

Fenix ECF No. Docket entries in Civil Action No. 1:20-cv-00200-JSR

MPEP (2008) Manual of Patent Examining Procedure, Eighth Edition, Revision 7 (July

2008)

PGD Defendants Pure Grown Diamonds, Inc. and IIA Technologies Pte. Ltd

d/b/a IIA Technologies

PGD ADCC Defendants' Amended Defenses and Counterclaims, Civil Action No.

1:20-cv-00189-JSR, ECF No. 56

PGD ECF No. Docket entries in Civil Action No. 1:20-cv-00189-JSR

Plaintiffs Plaintiffs Carnegie Institution of Washington and M7D Corporation

PTO U.S. Patent and Trademark Office

Rule Federal Rule of Civil Procedure

I. INTRODUCTION

In May, Defendants raised defenses and counterclaims of supposed inequitable conduct by either Robert Frushour or Wei Li (the original inventors of the '610 Patent, which reissued as the asserted '189 Patent), or by Carnegie (the institution), three scientists at Carnegie (Russell Hemley, Ho-kwang Mao, Chih-shiue Yan), or Carnegie's counsel. Plaintiffs moved to dismiss those unfounded claims. Instead of responding to the motions, Defendants took Frushour's deposition, reworked their defenses and counterclaims to add a host of baseless allegations, proclaim Frushour a hero instead of a fraudster, and target one of either Li, Hemley, Mao, Yan, Carnegie, or Gary Kowalczyk, Carnegie's former Director of Administration and Finance.

The allegations center on Carnegie's acquisition of the '610 Patent and correction of its inventorship through a reissue proceeding (removing Frushour as an inventor and adding the Carnegie scientists). While Defendants attempted to plead extensive facts, none provides a factual basis to reasonably infer that any of these people acted with deceptive intent, a necessary element of inequitable conduct. For example, Defendants claim Frushour proved his inventorship status at his deposition (making his removal fraudulent), even though Frushour could not speak to Carnegie's inventive contributions and thus lacked the factual basis to assess his own inventorship.

Defendants' pleadings are also riddled with misrepresentations of patent prosecution rules and obligations. They assert Carnegie was under obligations that did not exist—for example, a supposed obligation to contact Frushour before seeking reissue or to refile documents already in the prosecution record. Carnegie had no such obligations. As owner of the patent, regulations allowed Carnegie to take the action it saw fit to protect its investment even without Frushour's consent—correction of inventorship through reissue exists for those very circumstances.

These flawed allegations fail to meet the legal standard for inequitable conduct, which is

taxing. A pleading "must include sufficient allegations of underlying facts from which a court may reasonably infer . . . a specific intent to deceive the PTO," *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1328–29 (Fed. Cir. 2009), and the inference of deceptive intent must "be the single most reasonable inference able to be drawn from the evidence" *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1366 (Fed. Cir. 2008). Defendants fail to meet this exacting standard. Plaintiffs therefore request that the Court dismiss with prejudice PGD's and Fenix's counterclaims of inequitable conduct under Rule 12(b)(6), and strike with prejudice Defendants' affirmative defenses of inequitable conduct under Rule 12(f). ¹

II. FACTUAL BACKGROUND

A. Pleadings in this Action

Plaintiffs filed the Complaints in these lawsuits on January 9, 2020, seeking relief from Defendants' ongoing infringement of the '078 and '189 Patents. Defendants moved to dismiss the Complaints on March 30, 2020, arguing (1) that the asserted claims were invalid for reciting ineligible subject matter and (2) that Plaintiffs failed to adequately plead infringement. PGD ECF Nos. 28, 29; Fenix ECF Nos. 25, 26. The Court denied the motions on April 28, 2020. PGD ECF No. 43; Fenix ECF No. 39; *see also* PGD ECF No. 46 at 5–12; Fenix ECF No. 42 at 9–12.

PGD and 2AT filed Defendants' Answers, Defenses, and Counterclaims on May 8, 2020, and Fenix filed Defendant Fenix Diamond LLC's Answers, Defenses, and Counterclaims on May 18, 2020. PGD ECF No. 47; Fenix ECF No. 43. Plaintiffs responded on May 29, 2020, and June 8, 2020, with partial motions to dismiss Defendants' counterclaims and strike their affirmative defenses based on supposed inequitable conduct. PGD ECF Nos. 49, 50; Fenix ECF

¹ Because the allegations made by PGD/2AT and Fenix are nearly identical, Plaintiffs have prepared a single motion to be filed in each of the respective matters, but include citations to each of the respective Defendants' pleadings.

Nos. 51, 52. Instead of responding to the motion, PGD and 2AT filed Defendants' Amended Defenses and Counterclaims on June 19, 2020, and Fenix filed Defendant Fenix Diamonds LLC's Amended Affirmative Defenses and Counterclaims on June 23, 2020. PGD ADCC; Fenix ADCC.

B. Relevant Prosecution History of the '610 Patent

1. The '266 Application for Annealing Processes

The '189 Patent reissued from the '610 Patent. PGD ADCC, Affirmative Defenses ("PAD") ¶¶ 22, 24; Fenix ADCC, Affirmative Defenses ("FAD") ¶¶ 20, 22. That patent was originally filed on June 3, 2002, as the '266 Application by Frushour and Li. PAD ¶ 9; FAD ¶ 7. Each assigned their respective interest in the '266 Application to Phoenix Crystal Corporation ("Phoenix Crystal"). PAD ¶ 9; FAD ¶ 7. Frushour and Li were listed as joint inventors and submitted oaths stating: "I believe I am . . . an original, first and joint inventor . . . of the subject matter which is claimed and for which a patent is sought" PAD ¶ 9; FAD ¶ 7.; see also Ex. 2 1 at CARN-PGD_00000949–50. The PTO issued a Notice of Allowance for the '266 Application on April 15, 2004. Ex. 1 at CARN-PGD_00000989–91. Subsequently on May 17, 2004, the

² Citations to "Ex. XXX" refer to the exhibits attached to the Declaration of Matthew J. Moffa concurrently filed herewith.

³ The Court may consider the prosecution history of the '266, '171, and '529 Applications, the '610 Patent itself, and the transcript of Frushour's June 11, 2020 deposition on this motion to dismiss without converting it into a summary judgement motion. Those documents are integral to Defendants' pleadings, and the patent and patent applications are matters of public record. See Sira v. Morton, 380 F.3d 57, 67 (2d Cir. 2004) ("A complaint is [also] deemed to include . . . documents that, although not incorporated by reference, are 'integral' to the complaint." (citations omitted) (quoting Chambers v. Time Warner, Inc., 282 F.3d 147, 153 (2d Cir. 2002)); Bentley v. Dennison, 852 F. Supp. 2d 379, 382 n.5 (S.D.N.Y. 2012) ("Judicial notice of public records is appropriate—and does not convert a motion to dismiss into a motion for summary judgment—because the facts noticed are not subject to reasonable dispute and are capable of being verified by sources whose accuracy cannot be reasonably questioned."). Although not attached to their pleadings, Defendants refer extensively to the file histories, often quoting from them directly. See, e.g., PAD ¶¶ 9, 11–12, 22, 25, 38, 43, 47; Fenix AD ¶¶ 7, 9–10, 20, 23, 36, 41, 45. And they refer extensively to the June 11, 2020 deposition. PAD ¶¶ 14–12, 33; Fenix AD ¶¶ 12–13, 31. "Where [a party] has actual notice of all the information in the movant's papers and has relied upon these documents in framing [its pleading] the necessity of translating a Rule 12(b)(6) motion into one under Rule 56 is largely dissipated." Cortec Indus., Inc. v. Sum Holding L.P., 949 F.2d 42, 48 (2d Cir. 1991).

applicants filed a supplemental information disclosure statement ("IDS") listing four additional references for the examiner to consider. *Id.* at CARN-PGD 00000998–1000.

2. Carnegie's '171 Application and Request for Interference Proceeding

On July 13, 2004, Hemley, Mao, and Yan ("the Carnegie Scientists") filed the '171 Application, which claimed the same subject matter as the '266 Application. PAD ¶¶ 11, 13; FAD ¶¶ 9, 11; Ex. 2 at 4, 15. They also included a request for an interference proceeding⁴ with the '266 Application and a supporting declaration ("the Interference Declaration"). PAD ¶ 12; FAD ¶ 10; Ex. 2 at 1–4, 19–20. The request stated that "Applicants believe that they are the inventors of the claimed subject matter in [the '266 Application]," and the Interference Declaration stated: "We believe that the HPHT annealing processes discussed in [the '266 Application] are processes we directed Dr. Li to carry out because they are similar to the HPHT processes that we asked Dr. Li to perform." Ex. 2 at 3, 19. The Carnegie Scientists also explained that "Dr. Li never informed us that he filed the ['266 Application] even though we had extensive contact with Dr. Li prior to and after the filing of this U.S. patent application," and we "have no pertinent knowledge of Robert H. Frushour who is listed as an inventor." *Id.* at 3.

3. The '171 Application and Accompanying Interference Request Recognized in PTO Record for the '266 Application

The patent examiner for the '266 Application initialed the May 17, 2004, supplemental IDS on August 4, 2004, indicating he had considered the disclosed references. Ex. 1 at CARN-PGD_00001096. The interference request filed by the Carnegie Scientists and accompanying Interference Declaration were made part of the '266 Application's prosecution record on

⁴ An interference is a proceeding under pre-2011 35 U.S.C. § 135 (which gave the first inventor the rights to a patent) in which the PTO determines which of two competing parties first invented a commonly claimed invention. *See* MPEP (2008) § 2301. Cited portions of the MPEP are attached as Exhibit 5 to the Declaration of Matthew J. Moffa.

August 30, 2004. PAD ¶ 12; FAD ¶ 10; Ex. 1 at CARN-PGD_00001097–1101.

On November 2, 2004, the '266 Application issued as the '610 Patent. PAD ¶ 20; FAD ¶ 18; Ex. 4. At issuance, the '266 Application was owned by Diamond Innovations, Inc. PAD ¶¶ 18–20; FAD ¶¶ 16–18.

4. Office Action Dismissing Interference Request

On November 22, 2006, the examiner for the '171 Application issued a non-final Office Action rejecting the '171 Application as anticipated by the then-issued '610 Patent. Ex. 2 at 21–25. Although the Interference Declaration had been filed in support of the Carnegie Scientists' interference request, not in support of an Office Action response, the examiner considered whether the declaration was sufficient to overcome the anticipation rejection over the '610 Patent. The examiner concluded it was "insufficient in overcoming this rejection" because "[a] declaration filed under 37 C.F.R. § 1.132 is only applicable if the references do not claim the same patentable invention," and that the '610 Patent "and the present application do claim the same invention." *Id.* at 24. Accordingly, the examiner continued, "the Request for Interference Proceedings is dismissed, as the present application has not been found to be in a condition for allowance." *Id.*

On September 4, 2008, Diamond Innovations, Inc. assigned "its entire right, title and interest in and to" the '610 Patent to Plaintiff Carnegie. Ex. 3 at CARN-PGD_00000857.

C. Relevant Prosecution History of the '189 Patent

On January 30, 2009, Carnegie filed the '529 Application seeking a correction of inventorship through reissue for the '610 Patent. ⁵ *Id.* at CARN-PGD_00000854; PAD ¶ 22; FAD ¶ 20. The reissue application listed Li and the Carnegie Scientists as inventors. Ex. 3 at CARN-

⁵ A reissue application is filed to correct an error in a patent that renders it wholly or partly inoperative or invalid, including to correct a misjoinder of inventors. *See* MPEP (2008) §§ 1402, 1412.04 ("The correction of misjoinder of inventors has been held to be a ground for reissue").

PGD_00000860, 862. Carnegie included a Reissue Application Declaration by the Assignee signed by its Director of Administration Finance at the time, Gary Kowalczyk, stating that "Robert H. Frushour is incorrectly named on the 6,811,610 patent as an inventor and Russell J. Hemley, Ho-kwang Mao, and Chih-shiue Yan are incorrectly not named as inventors." *Id.* at CARN-PGD_00000861. Under 37 C.F.R. § 1.172(a), "a reissue oath may be made and sworn to or declaration made by the assignee of the entire interest if the application does not seek to enlarge the scope of the claims of the original patent." 37 C.F.R. § 1.172(a) (2008) (Ex. 6). This was the case for the '529 Application, as it did not seek to add claims to, nor amend any existing claims of, the '610 Patent. Additionally, "an assignee of the entire interest can add or delete the name of an inventor by reissue (*e.g.*, correct inventorship from inventor A to inventors A and B) without the original inventor's consent." MPEP (2008) § 1412.04.

The PTO issued a Notice of Allowance for the '529 Application on November 13, 2009, and it issued as the '189 Patent on April 6, 2010. Ex. 3 at CARN-PGD_00000899-906; PAD ¶ 24; FAD ¶ 22.

D. Frushour Deposition

On June 11, 2020, the parties deposed Frushour. He was the founder of Phoenix Crystal. Ex. 7 (Frushour Dep.) at 16:15–18. Initially focusing on natural diamonds, Phoenix Crystal began treating CVD single-crystal diamonds in . *Id.* at 122:6–12. The '610 Patent and '189 Patent pertain specifically to treatment of single-crystal CVD Diamonds, not natural diamonds. Ex. 4. Frushour hired Li to grow and treat CVD diamonds because of Li's relevant expertise, and Li conducted the treatments at Phoenix Crystal and kept contemporaneous lab notebooks. *Id.* at 124:12–125:3. Notably, Frushour does not recall where Li previously worked:



Id. at 124:21–125:3. According to the Interference Declaration, Li gained his CVD diamond experience at Carnegie's Geophysical Lab ("GL") under the direction of the Carnegie Scientists Russell Hemley and Ho-kwang (Dave) Mao. Ex. 2 at ¶ 2–3.

Frushour nevertheless confirmed that Li contributed to the '610 Patent (and thus the '189 Patent). Ex. 7 (Frushour Dep.) at 114:5–18.



Id. 125:8–126:1, 132:18–25.

At his deposition, Frushour reviewed Li's lab notebooks from 2002. Id. at 49:20-50:4.

When presented with an entry in Li's notebook appearing to identify the specific source of certain diamonds, Frushour was unfamiliar with the source:



Id. at 132:8-17.

Frushour further testified that he did not know the Carnegie Scientists, nor had he ever worked with any of them on HPHT annealing. *Id.* at 89:19–90:8, 97:24–98:4. He could not remember the details of any research conducted by Carnegie at the time, or if Carnegie did work in high pressure high temperature (HPHT) treatment of CVD diamonds:



Id. at 133:2–15.

III. DEFENDANTS' INEQUITABLE CONDUCT ALLEGATIONS

A. Defendants' Affirmative Defenses of Inequitable Conduct

In their amended pleadings, Defendants assert defenses of inequitable conduct. PAD ¶¶ 8–52; FAD ¶¶ 6–50. Although Fenix filed its amended pleading four days after PGD and 2AT, it included an affirmative defense of inequitable conduct that is a near word-for-word copy of PGD

and 2AT's pleading. Compare PAD ¶¶ 8–52, with FAD ¶¶ 6–50.

Defendants allege the '189 Patent is unenforceable because it was supposedly "acquired through inequitable conduct or, in the alternative, because [it] is a reissue of a patent that was procured by inequitable conduct." PAD ¶ 8; FAD ¶ 6. After walking through the prosecution history detailed above, Defendants make a host of allegations based on the prosecution events and the June 11, 2020, Frushour deposition. They repeat several allegations many times, as explained below. When these redundancies are swept away, however, the skimpy nature of the allegations becomes clear.

1. Allegations Regarding Carnegie's Supposed Duty to Contact Frushour Before Filing Reissue Application

Defendants allege several times that Carnegie had a supposed duty to contact Frushour before filing the reissue application:

12. . . . Hemley, Mao, and Yan submitted the declaration to the Patent Office without ever speaking with Frushour.

PAD ¶ 12; FAD ¶ 10; see also PAD ¶¶ 15, 22, 24, 27; FAD ¶¶ 13, 20, 22, 25.

2. Allegations Regarding Carnegie's Supposed Duty to Inform PTO of Prior Interference Request and Correspondence with Prior Owner

Defendants also make several allegations about a supposed duty on Carnegie to inform the PTO about its prior interference request and its correspondence with Diamond Innovations, and they surmise the PTO would have conducted a "further investigation" regarding inventorship:

22. . . . In the Declaration, Kowalczyk and Carnegie, as well as each of Hemley, Mao, and Yan, did not inform the Patent Office of the previous failed attempt to challenge the inventorship of the '610 Patent, omitted evidence that Diamond Innovations, Inc. believed Li and Frushour to be the correct inventors, and failed to explain that Carnegie, Kowalczyk, Hemley, Mao, and Yan had never contacted Frushour to discern whether he contributed to the claimed invention. . . .

PAD ¶ 22; FAD ¶ 20; see also PAD ¶¶ 23, 29, 31, 35, 36, FAD ¶¶ 21, 27, 29, 33, 34.

3. Allegations Regarding Carnegie's Supposed Duty to File Inventor Declarations with Reissue Application

Defendants also included allegations regarding a supposed duty on Carnegie to file inventor declarations with the '529 Application:

24. . . . Despite asserting a mistake in inventorship in the '529 Application, Carnegie and Kowalczyk did not include a Declaration in the reissue application from Mao, Hemley, Yan, or any of the named inventors of the '610 Patent.

PAD ¶ 24; see also FAD ¶ 22.

4. Allegations Characterizing Interference Declaration

Defendants make allegations characterizing the content of the interference declaration:

16. The Declaration of Hemley, Mao, and Yan dated July 12, 2004, contains false statements. Contrary to the Declaration, Hemley, Mao, and Yan did not convey the claimed annealing steps to Frushour or Li. Li's contemporaneously maintained notebook does not indicate that Hemley, Mao, or Yan provided any annealing conditions to use. . . .

PAD ¶ 16; see also FAD ¶ 14.

5. Allegations Regarding Beliefs of Frushour and Prior Owner

Defendants also make allegations regarding supposed beliefs by Frushour, Diamond Innovation, and its attorney, James Singer:

- 15. At the June 11, 2020 deposition, Dr. Frushour reviewed the Declaration of Hemley, Mao, and Yan dated July 12, 2004, and disagreed with its content. . . .
- 17.... [James] Singer[, the prosecuting attorney for the '266 Application] . . . stated that he had no reason to believe the inventorship was incorrect and would continue to believe the inventorship was correct until Carnegie could provide evidence otherwise.

PAD ¶¶ 15, 17; FAD ¶¶ 13, 15; see also PAD ¶ 22; FAD ¶ 20.

6. Allegations Regarding Supposed Improper Conduct by Carnegie

Defendants proceed to make a host of allegations regarding supposedly false statements or

improper conduct by Carnegie (the Institution), Carnegie Scientists, and Kowalczyk:

- 22. . . . In the '529 Application, Carnegie, through the Declaration of Gary Kowalczyk, falsely declared that the '610 Patent contained "[a]t least one error" . . . Knowing that Frushour was a named inventor of the '610 Patent, for Kowalczyk to state that "Frushour is incorrectly named on the 6,811,610 as an inventor" was a knowingly false statement, or at best a willfully blind statement, intended to deceive the Patent Office and to deprive them of material knowledge that Kowalczyk knew or should have known undermined his claim.
- 29. But Hemley, Mao, Yan, Carnegie, and Kowalczyk committed inequitable conduct by submitting a false declaration to the Patent Office during the prosecution of the '171 Application. . . .

PAD ¶¶ 22, 29; FAD ¶¶ 20, 27; see also PAD ¶¶ 26, 27, 30, 32, 33, 49, FAD ¶¶ 24, 25, 28, 30, 31, 47.

7. Allegations Regarding Supposed Improper Conduct by Li

Defendants lodge alternative attacks based on Li's conduct, alleging that the underlying '610 Patent was procured through Li's fraud. For example, they allege:

- 44.... According to Hemley's, Mao's, and Yan's declaration (if believed to be true), and despite owing a duty of candor to the Patent Office, Li knew but deliberately chose not to disclose to the Patent Office that Hemley, Mao, and Yan were co-inventors of the subject matter claimed in the '266 Application and that Frushour was not an inventor.
- 47... Li therefore falsely stated under oath that Frushour was an inventor and he knowingly and intentionally sought to deceive the Patent Office through his false declaration.

PAD ¶¶ 44, 47; FAD ¶¶ 42, 45; see also PAD ¶¶ 42, 43, 46, 49, FAD ¶¶ 40, 41, 44, 47.

B. Defendants' Affirmative Defenses of Inequitable Conduct

Defendants also assert defenses of invalidity under § 251 (their Fifth Affirmative Defenses). PAD ¶¶ 53–60; FAD ¶ 51. Although these defenses are raised under § 251, which gives the circumstances when inventorship may be corrected through reissue, PGD and 2AT make allegations that recognize an alternative procedure to correct inventorship under § 256, through a

certificate of correction. Their pleading recognizes that the reissue procedure under § 251 applies when an inventor disagrees or does not consent to the inventorship correction, and the certificate of correction procedure under § 256 applies when the inventors all agree:

- 53. . . . To correct inventorship under 35 U.S.C § 256 requires that "all parties"—including all inventors being added, removed, or maintained—agree and that inventorship is not contested.
- 54. Having failed to trigger an interference proceeding more than four years prior, and *opting not to change inventorship through a certificate of correction (which would have required Frushour and Li's consent)*, Carnegie unilaterally applied for a reissue without submitting any information by or on behalf of the inventors listed on the '610 Patent or the substitute inventors identified in the '529 Application.

PAD ¶¶ 53–54 (emphasis added); *see also* MPEP (2008) § 1412.04 ("Thus, the assignee of the entire interest can file a reissue to change the inventorship to one which the assignee believes to be correct, even though an inventor might disagree.").

All Defendants also make allegations relating to Frushour, Li, and Phoenix Crystal's filing of the '266 Application, and the supposed inability to correct the inventorship errors through reissue:

- 59. Deliberate actions taken during prosecution, such as those taken by the applicants and their attorneys during prosecution of the '266 and '171 Applications, are not errors made without any deceptive intention under § 251.
- 60. On information and belief, Frushour and Li purposefully did not name the '171 Applicants as co-inventors of the '266 Application and purposefully named themselves as the sole inventors of the '266 Application. The '189 Patent therefore reissued contrary to § 251 and is invalid.

PAD ¶¶ 59–60; see also FAD ¶ 51.

C. Corresponding Counterclaims by PGD and Fenix

PGD (but not 2AT) and Fenix brought corresponding counterclaims, namely, PGD's Third Counterclaim (Inequitable Conduct) and Fenix's Fifth Counterclaim (Declaratory Judgment of Unenforceability Due to Inequitable Conduct). These counterclaims are word-for-word identical to PGD and Fenix's affirmative defenses of inequitable conduct. *Compare* PGD ADCC, Counterclaims ("PGD Counterclaims") ¶¶ 16–61, *with* PAD ¶¶ 8–52; *compare* Fenix ADCC Counterclaims ("Fenix Counterclaims") ¶¶ 52–97, *with* FAD ¶¶ 6–50. PGD and Fenix made no additional factual allegations with these counterclaims.

IV. LEGAL STANDARD

A. Motion to Dismiss for Failure to State a Claim under Rule 12(b)(6) and to Strike an Insufficient Defense under Rule 12(f)

"A motion to dismiss a counterclaim is evaluated under the same standard as a motion to dismiss a complaint." *UPS Store, Inc. v. Hagan*, 99 F. Supp. 3d 426, 434 (S.D.N.Y. 2015) (citation omitted). To survive a motion to dismiss, the pleading must allege "enough facts to state a claim to relief that is plausible on its face." *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007). If it "pleads facts that are 'merely consistent with' a defendant's liability, it 'stops short of the line between possibility and plausibility of "entitlement to relief."" *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (quoting *Twombly*, 550 U.S. at 557).

Rule 12(f) "provides that a 'court may strike from a pleading an insufficient defense or any redundant, immaterial, impertinent, or scandalous matter." *Burck v. Mars, Inc.*, 571 F. Supp. 2d 446, 456 (S.D.N.Y. 2008) (quoting Fed. R. Civ. P. 12(f)). "Moreover, 'the standards for a Rule 12(b)(6) motion to dismiss . . . apply to a motion to strike an affirmative defense pursuant to Rule 12(f)." *Cognex Corp. v. Microscan Sys., Inc.*, 990 F. Supp. 2d 408, 418 (S.D.N.Y. 2013) (quoting *Burck*, 571 F. Supp. 2d at 456).

B. Substantive Legal Standard: Heavy Burden to Show Inequitable Conduct

"Inequitable conduct is an equitable defense to patent infringement that, if proved, bars enforcement of a patent." *Regeneron Pharm., Inc. v. Merus N.V.*, 864 F.3d 1343, 1350 (Fed. Cir.

2017) (quoting *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1285 (Fed. Cir. 2011) (en banc)). The consequences are severe: unlike invalidity defenses, which are claim-specific, inequitable conduct renders an entire patent unenforceable, and can even apply to other patents in the same family. *Therasense*, 649 F.3d at 1288 (calling the remedy for inequitable conduct "the 'atomic bomb' of patent law." (citation omitted)).

To no surprise, inequitable conduct allegations are often deployed by accused infringers "on the slenderest grounds." *Id.* at 1289 (citation omitted). The patent challenger's burden is therefore onerous: "the accused infringer must prove that the applicant misrepresented or omitted [1] material information with [2] the specific intent to deceive the PTO" by clear and convincing evidence. *Id.* at 1287 (citing *Star Sci.*, 537 F.3d at 1365).

To establish deceptive intent based on, as here, an inference of deceptive intent from indirect evidence, the inference must "be the single most reasonable inference able to be drawn from the evidence "Star Sci., 537 F.3d at 1366; see also Scanner Techs. Corp. v. ICOS Vision Sys. Corp., 528 F.3d 1365, 1376 (Fed. Cir. 2008) ("Whenever evidence proffered to show either materiality or intent is susceptible of multiple reasonable inferences, a district court clearly errs in overlooking one inference in favor of another equally reasonable inference."). In fact, to defeat these fraud-like allegations, a patentee need not even provide a good faith explanation for the circumstantial facts supposedly establishing deceptive intent. M. Eagles Tool Warehouse, Inc. v. Fisher Tooling Co., 439 F.3d 1335, 1340–41 (Fed. Cir. 2006) ("When the absence of a good faith explanation is the only evidence of intent, however, that evidence alone does not constitute clear and convincing evidence warranting an inference of intent."). "[W]hen there are multiple reasonable inferences that may be drawn, intent to deceive cannot be found." Therasense, 649 F.3d at 1290–91. Courts do not "strike down an entire patent where the patentee only committed minor

missteps or acted with minimal culpability or in good faith." Star Sci., 537 F.3d at 1366.

C. Pleading Standard: Heightened Rule 9(b) Requirements for Inequitable Conduct

As a claim rooted in fraud, inequitable conduct must be pleaded with particularity under Rule 9(b). See Exergen, 575 F.3d at 1328–29. Federal Circuit law governs the heightened standard's application to these types of allegations. Id. at 1318. Because of their slanderous nature, the Federal Circuit requires courts to cast a sharp eye on these claims at the pleading stage: "A pleading that simply avers the substantive elements of inequitable conduct, without setting forth the particularized factual bases for the allegation" are dismissed. Id. at 1326–27. As such, to survive, "the specific who, what, when, where, and how of the material misrepresentation or omission committed before the PTO" must be identified in the pleading. Id. at 1327.

Allegations of deceptive intent receive heightened scrutiny at the pleading stage given the weighty showing required on the merits (that deceptive intent be the single most reasonable inference). While the knowledge and intent requirements of inequitable conduct may be alleged in general, more is required for deceptive intent: the pleading "must include sufficient allegations of underlying facts from which a court may reasonably infer that a specific individual (1) knew . . . of the falsity of the material misrepresentation, and (2) . . . misrepresented this information with a specific intent to deceive the PTO." *Id.* at 1328–29. "A reasonable inference is one that is plausible and that flows logically from the facts alleged, including any objective indications of candor and good faith." *Id.* at 1329 n.5 (citing *Greenstone v. Cambex Corp.*, 975 F.2d 22, 26 (1st Cir. 1992), superseded by statute on other grounds, Private Securities Litigation Reform Act of 1995, Pub. L.No. 104–67, 109 Stat. 737).

V. DEFENDANTS FAILED TO PROPERLY PLEAD INEQUITABLE CONDUCT

A. Defendants Base Their Deceptive Intent Allegations on Nonexistent Obligations

Defendants' pleadings are riddled with misrepresentations of patent prosecution rules, supposed obligations that they create, and procedures they establish. Specifically, Defendants allege that Carnegie was under obligations that did not exist and, based on supposed violations of these phantom duties, Defendants launch their inequitable conduct and deceptive intent allegations. A cursory review of the applicable rules of practice and regulatory provisions will put to rest the supposed parade-of-horribles committed by Carnegie, the Carnegie Scientists, and Mr. Kowalczyk. Accordingly, Defendants claims have no legal basis and should be dismissed.

1. No obligation to contact Frushour before Carnegie sought reissue

As described above, Defendants base several allegations of inequitable conduct and deceptive intent on Carnegie's choice to not contact Frushour before filing the '529 Application. *See supra* Section III.A.1. But no such obligation existed. As an assignee of the entire interest in the patent, Carnegie could file for reissue and sign the accompanying oath and declaration. 37 C.F.R. § 1.172(a) (2008) ("a reissue oath may be made and sworn to or declaration made by the assignee of the entire interest if the application does not seek to enlarge the scope of the claims of the original patent"). No oath from the inventors was required, and as such, Carnegie cannot be charged with a duty to contact the unneeded inventors. Moreover, the procedure to correct inventorship through reissue exists for situations where an inventor disagrees with the change in inventorship: "[A]n assignee of the entire interest can add or delete the name of an inventor by reissue (e.g., correct inventorship from inventor A to inventors A and B) without the original inventor's consent. Thus, the assignee of the entire interest can file a reissue to change the inventorship to one which the assignee believes to be correct, even though an inventor might

disagree." MPEP (2008) § 1412.04 (emphasis added) (citation omitted). PGD and 2AT even recognize this in their pleading. PAD ¶¶ 53–54. As owner of the patent property interest, the assignee can act as it deems proper to protect its investment. Frushour's beliefs regarding his status as an inventor either then or now do not change the propriety of Carnegie's choice to seek reissue nor make its conduct inequitable. As such, Defendants' allegations are based on a faulty legal premise and should be dismissed.

2. No obligation to inform PTO about interference request or inventorship dispute already of record

Defendants also base their attacks on a supposed failure on the part of Carnegie to inform the PTO about Carnegie's prior request for an interference and the Interference Declaration. *See supra* Section III.A.2. But Defendants themselves recognize that the interference request⁶ and supporting declaration were already in the file history for the '610 Patent (*i.e.*, the patent for which reissue was sought). PAD ¶ 12; FAD ¶ 10; Ex. 1 at CARN-PGD_00001097–1101. There was no need to refile the interference request and declaration—they were already in the record. Any inference of deceptive intent based on Carnegie's choice to forgo a cumulative filing would not only be unreasonable, it would be irrational. *See Edge Capture L.L.C. v. Barclays Bank PLC*, No. 09 CV 1521, 2011 WL 13254424, at *12 (N.D. III. Aug. 30, 2011) ("[T]he pleadings do not allege any underlying facts from which the Court could reasonably infer that the patent applicants knowingly and intentionally presented falsehoods or omissions to the PTO."). Defendants also

⁶ As a factual matter, there was no "previous failed attempt to challenge the inventorship of the '610 Patent." PAD ¶ 22; Fenix AD ¶ 20. Although the '171 Applicants requested an interference with the '266 Application on July 13, 2004, the PTO never reached the inventorship claim. The '266 Application issued as the '610 Patent four months after the request (on November 2, 2004), and the PTO did not consider the request until two years later (on November 22, 2006). Before doing so, however, the examiner rejected the '171 Application as anticipated by the then-issued '610 Patent. Because of the rejection, and the '171 Applicants' declaration's inapplicability to the rejection, "the Request for Interference Proceedings [was] dismissed, as the present ['171 Application] has not been found to be in a condition for allowance." Ex. 2 at 24. The inventorship issue persisted.

premise their allegations on a supposed ignorance by the PTO of Frushour, Li, and Diamond Innovations' *belief* that the inventorship on the '610 Patent was proper, and Carnegie's supposed failure to inform the PTO about their beliefs. But the PTO was well aware—Frushour and Li's oath accompanying the original '266 Application was before the PTO in the file history for the underlying '610 Patent, PAD ¶ 9; FAD ¶ 7, as was Diamond Innovation's continued prosecution of the '266 Application from the time it acquired the application in December 31, 2003, until the patent issued on November 2, 2004, PAD ¶¶ 19–20; FAD ¶¶ 17–18.

Nor would the PTO have "required further investigation" or "requested additional information" had the cumulative disclosures been made. PAD ¶ 23, 35, 36; FAD ¶ 21, 33, 34. According to the PTO's MPEP, "the assignee of the entire interest can file a reissue to change the inventorship to one which the assignee *believes to be correct*," MPEP (2008) § 1412.04 (emphasis added), the PTO would have respected that belief, and Defendants point to no mechanism under which the PTO would challenge the assignee's position on that point. Thus, again, Defendants' allegations are based on improper view of the rules and regulations of practice before the USPTO or directly contradictory to the record, and should be dismissed.

3. No obligation to file inventor declarations with reissue application

Defendants insinuate that Carnegie acted improperly by failing to include inventor declarations with the '529 Application. PAD ¶ 24; FAD ¶ 22; Ex. 1 at CARN-PGD_00001097—1101. But no inventor declarations were required. The regulation is clear: "[A] reissue oath may be made and sworn to or declaration made *by the assignee of the entire interest* if the application does not seek to enlarge the scope of the claims of the original patent." 37 C.F.R. § 1.172(a) (2008) (emphasis added). Defendants cannot conjure up nonexistent requirements and base ludicrous accusations on inequitable conduct on the dreamt-up requirements. *See TALtech Ltd. v. Esquel*

Apparel, Inc., 279 F. App'x 974, 977 (Fed. Cir. 2008) (vacating judgement of inequitable conduct based on failure to disclose product that inspired invention because "an inventor is not required to disclose the object or article that inspired his invention").

B. Defendants Fail to Plead Facts Leading to Any Inference of Deceptive Intent

Beyond these legal issues, Defendants' inequitable conduct claims are premised on allegations of supposed false statements, false declarations, and deceptive intent by either Carnegie (the institution), Hemley, Mao, Yan, Li, or Kowalcyzk. But as explained by the Federal Circuit in *Exergen*, Defendants had to "include sufficient allegations of underlying facts from which a court may reasonably infer that" the accused individuals "misrepresented [the inventorship] information with a specific intent to deceive the PTO." 575 F.3d at 1328–29. A reasonable factfinder cannot draw those inferences from the pleaded facts. Defendants also had to identify "the specific who, what, when, where, and how of the material misrepresentation or omission committed before the PTO," yet failed to do so. *Id.* at 1327. At bottom, Defendants take big inferential leaps with no proper footing. Their baseless claims fall flat.

1. No Reasonable Inference of Inequitable Conduct by Carnegie

Underlying all of Defendants' allegations is a key premise: that the original inventorship on the '610 Patent was correct. *See, e.g.*, PAD ¶ 24; FAD ¶ 22. From there, Defendants allege Carnegie committed inequitable conduct during the reissue proceeding by telling the PTO there was an inventorship error or supposedly failing to investigate Frushour's inventorship status. *See, e.g.*, PAD ¶ 22; FAD ¶ 20. But the pleaded facts cannot yield an inference that the original inventorship was right, that Carnegie failed to believe in good faith that an error existed, and much less that Carnegie intended to deceive the PTO when it filed for reissue. The supporting "particularized facts" are missing. An inference of deceptive intent does not "flow[] logically from the facts alleged, including any objective indications of candor and good faith," *Exergen*, 575 F.3d

1329 n.5, and would not be "the single most reasonable inference able to be drawn from the evidence," as required to prevail at trial. *Star Sci.*, 537 F.3d at 1366.

For example, Defendants base their claims of correct original inventorship on Frushour's belief that he is a co-inventor, and his supposed proof that the Carnegie Scientists made no inventive contribution. PAD ¶¶ 14, 16, 33; FAD ¶ 12, 14, 31. According to Defendants, Frushour's co-inventor status is "corroborated by the '266 Application and documentary and testimonial evidence produced by Frushour in response to subpoena, including a Phoenix Crystal Corporation lab notebook, contemporaneously maintained by Li." PAD ¶ 38; FAD ¶ 36. But an inference of his supposed co-inventorship does not follow. Frushour had no memory of Carnegie's CVD and annealing activity at the time, and did not know the details of any communications between Carnegie and Li or the source of Li's CVD single-crystal diamonds. See supra Section II.D.

See supra Section II.D. Frushour thus cannot speak to the timing of Carnegie's invention or Li's involvement, and certainly cannot determine if Carnegie's inventive contributions predated any activity on his part. The timing may matter here, and Defendants plead no facts on that issue. If Carnegie believed in good faith that it invented the claimed processes before Frushour, and Li implemented Carnegie's invention, even if Frushour independently determined anything, the Carnegie Scientists (not Frushour) are the proper inventors. If Li contributed to the Carnegie invention, he likewise is a proper inventor. Plaintiffs are not just providing a good faith explanation for the pleaded facts, although that would suffice. Instead the key allegations (that the original inventorship was correct and Carnegie falsely declared there was an error) have no factual underpinning. The pleaded facts lay no groundwork of inequitable conduct.

Defendants likewise base their key premise on Frushour's present-day "disagree[ment]" with the content of the Interference Declaration. See, e.g., PAD ¶ 15; FAD ¶ 13. There is nothing surprising about this disagreement, and certainly nothing that leads to an inference of deceptive intent by Carnegie, the Carnegie Scientists, or Kowalczyk. The inventorship disagreement went both ways—the Carnegie Scientists wholeheartedly believed they were the proper inventors. Carnegie's acts were always consistent with the scientists' belief: Carnegie filed the '171 Application claiming the same invention, it requested an interference, it filed the Interference Declaration stating the Carnegie Scientists' beliefs, Carnegie took steps to acquire the '610 Patent after it issued, and having obtained it, Carnegie sought to correct the inventorship through a PTO process made available for situations when "an inventor might disagree." MPEP (2008) § 1412.04. "[O]bjective indications of candor and good faith" like this make an inference of deceptive intent unwarranted. See Exergen, 575 F.3d 1329 n.5. Defendants also surmise that Frushour identified inconsistencies between the Interference Declaration and Li's notebook. PAD ¶¶ 15–16; FAD ¶¶ 13–14. But Frushour did not author either document, and his deposition testimony established his ignorance on all the relevant facts and players. Defendants have no factual basis to assert there were false statements in the Interference Declaration.

Defendants' unfounded accusations crescendo in PGD/2AT's 30th paragraph (Fenix's 28th paragraph):

30. Upon information and belief, Carnegie and Kowalczyk specifically intended to deceive the Patent Office to *falsely obtain recognition in the scientific community for its scientists*, Hemley, Mao, and Yan, as the inventors of the claimed subject matter, and to secure the '189 Reissue Patent for Carnegie. . . .

PAD ¶ 30; FAD ¶ 28; *see also* PAD ¶ 37; FAD ¶ 35. This is baseless mudslinging at its worst. Defendants have no factual basis to accuse Carnegie, a renowned research institution, of seeking to "falsely obtain recognition in the scientific community." PAD ¶ 30; FAD ¶ 28; *see Kranos IP*

Corp. v. Riddell, Inc., 334 F. Supp. 3d. 907, 915–16 (N.D. Ill. 2018) (allegation of deliberate decisions to withhold information cannot be inferred because an applicant "stood to benefit" from the patent). Nor have Defendants any basis to allege that Carnegie did not invent the annealing methods claimed in the '189 Patent. Frushour did not know if Carnegie sent any diamonds or instructions to Li. Carnegie may have conveyed the claimed treatment steps to Li and, even if not, Carnegie nevertheless may have conceived them before Frushour allegedly did.

A recent case from this district is informative. In *Town & Country Linen Corp. v. Ingenious Design LLC*, the court dismissed affirmative defenses of inequitable conduct because, among other things, the defendants "fail[ed] to adequately allege any intent to deceive the USPTO." No. 18-cv-5057 (LJL), 2020 WL 3472597, at *7 (S.D.N.Y. June 25, 2020). The defendants accused the plaintiffs (TNC) of inequitable conduct based on the omission of a defendant and prior collaborator (Mangano) as an inventor, and their failure to disclose the patent filing to another defendant and prior collaborator (IDL). *Id.* at *6–7. But the court explained that, "[e]ven if TNC or its counsel had not informed IDL it filed the patent, this is a far cry from the 'clear and convincing evidence' that TNC or its counsel 'made a deliberate decision to withhold a known material reference' to the PTO." *Id.* at *7 (quoting *Therasense*, 649 F.3d at 1290). Here, any choice by Carnegie to seek reissue without informing Frushour likewise cannot establish deceptive intent—they had no obligation under any rules to do so. And Frushour's present-day belief about his inventorship status or disagreement with Carnegie are a "far cry" from the clear and convincing evidence that Carnegie made a deliberate decision to withhold material information from the PTO.

Defendants make similar baseless allegations about Li: "Li specifically intended to deceive the Patent Office on inventorship in order to secure the '189 Reissue Patent for his former colleagues at Carnegie (Hemley, Mao, and Yan) in exchange for them including Li among the list

of co-inventors to be recognized by the scientific community for the invention." PAD ¶ 39; FAD ¶ 37. But Defendants plead no facts to support Li's supposed scheme to misappropriate a patent for his former colleagues. Conspiracy theories are not enough. Without facts, the pleadings fail.

Defendants also fail to plead "who" committed the supposed inequitable conduct with the specificity required by Rule 9(b) and Exergen. See 575 F.3d at 1327. They direct their attacks to Carnegie (the institution), Hemley, Mao, Yan, Li, Carnegie, and Kowalczyk. See, e.g., PAD ¶ 29– 30, 35–37; FAD ¶¶ 27–28, 33–35. Judges in this district have found imprecise accusations like this deficient. For example, in Signify North America Corp. v. Reggiani Lighting USA, Inc., Reggiani targeted "persons associated with the filing and prosecution of that patent application, including named inventors Ihor A. Lys . . . Frederick M. Morgan . . . and/or prosecution counsel, including Joseph Teja" with inequitable conduct allegations. No. 18 Civ. 11098 (ER), 2020 WL 1331919, at *6 (S.D.N.Y. Mar. 23, 2020). The court concluded Reggiani "failed to state with specificity an individual (or individuals) 'who both knew of the material information and deliberately withheld or misrepresented it." Id. at *7 (citation omitted). The pleaded facts indicated Morgan and Li, but not necessarily Teja, had the requisite knowledge of materiality, but "Reggiani's use of the term 'and/or' makes it entirely possible that Lys and Morgan . . . might not be the individuals who acted with intent to deceive." Id. at *6. Defendants likewise falter. The attacks on "Carnegie" as a whole are particularly problematic, as explained in Signify. Id. at *7. Because "many of Reggiani's allegations refer[ed] to Signify writ large, rather than to a specific individual, as required by Rule 9(b)," "Reggiani's references to Signify [were] insufficient to meet the standard for stating an inequitable conduct claim." *Id.* The same defect pervades here.

2. No Reasonable Inference of Inequitable Conduct by Li

In an alternative attack, Defendants take aim at Li and assert he committed inequitable conduct either during the original prosecution or the reissue. The allegations are premised on Li's

supposed knowledge of the proper inventors for the '266 and '529 Application. For example, Defendants allege Li knew "that Hemley, Mao, and Yan were the inventors of the subject matter claimed in the '266 Application" or, alternatively, "Li could not have believed in good faith that Frushour was an inventor at the time of his inventor oath in the '266 Application." PAD ¶¶ 43, 46; FAD ¶¶ 41, 44. But inventorship is a legal determination and Li may not have known the intricacies of inventorship issues or may have been following the instructions of his employer (Frushour) or Phoenix Crystal's patent counsel.



Ex. 7 (Frushour Dep.) at 113:9-25.

Regardless, Li's signing of his declaration with the '266 Application and his status as an inventor on '529 Application do not lead to an inference of deceptive intent. Defendants cannot contrive the inference that Li intentionally concealed the Carnegie Scientists invention during the initial prosecution or Frushour's supposed contribution during the reissue process. Li's oath stated merely that he was an "original, first and joint inventor," not that they were the *only* inventors of covered subject matter. And no inventorship assessment by Li was required for the reissue—Carnegie's belief is the pertinent one. MPEP (2008) § 1412.04.

These facts fall well "short of the line between possibility and plausibility of entitlement to relief." *Iqbal*, 556 U.S. at 678 (quotation marks omitted) (quoting *Twombly*, 550 U.S. at 557).

Indeed, if an inference of deceptive intent flowed from these standard inventor oaths, every patent whose inventorship was changed by reissue without the express consent of all the original inventors would be unenforceable. That cannot be correct or the PTO would not permit an assignee to correct inventorship without the consent of the originally named inventors.

Oddly, Defendants rely on the Interference Declaration to accuse Li of bad-faith beliefs during both proceedings. *See*, *e.g.*, PAD ¶¶ 44, 46; FAD ¶¶ 42, 44. But any supposed belief by the Carnegie Scientists does not speak to Li's state of mind and, regardless, the declaration made no allegations of deceptive intent. Instead, the Interference Declaration stated: (1) "Applicants believe that they are the inventors of the claimed subject matter in [the '266 Application];" (2) "[w]e believe that the HPHT annealing processes discussed in [the '266 Application] are processes we directed Dr. Li to carry out . . .;" and (3) we "have no pertinent knowledge of Robert H. Frushour who is listed as an inventor." Ex. 2 at 3, 19.

While the amended pleadings may be long and repetitive, the factual underpinnings for deceptive intent and inequitable conduct are missing. There are no plausible inferences of deceptive intent by either Carnegie, Hemley, Mao, Yan, Li, or Kowalczyk. As such, deceptive intent would not be "the single most reasonable inference able to be drawn from the evidence," as required to prevail at trial. *Star Sci.*, 537 F.3d at 1366. Defendants thus have failed to allege the required facts for an essential element of their inequitable conduct attacks.

VI. CONCLUSION

Plaintiffs respectfully request that the Court grant this motion and dismiss with prejudice PGD's and Fenix's counterclaims of inequitable conduct under Rule 12(b)(6), and strike with prejudice Defendants' affirmative defenses of inequitable conduct under Rule 12(f).

July 7, 2020

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on July 7, 2020, I caused to be served copies of the foregoing MEMORANDUM OF LAW IN SUPPORT OF PLAINTIFFS' MOTIONS TO DISMISS on the following counsel via email:

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